

## THE LATEST DEVELOPMENTS FOR SOLID WOOD TECHNOLOGIES

Doors and window frames are fundamental parts of a house. They have to be able to guarantee the thermal insulation necessary for saving energy and the acoustic insulation to ensure optimal comfort levels, which are the obligatory requirements for contemporary building standards. At the same time windows are also part of the furnishings and wood, with its warmth, style and sense of hospitality, is undoubtedly one of the best materials to furnish a space. Wood is still the leading choice in a sector that increasingly demands a fusion of technology and design. Consequently joiners need to have the ability to provide customised solutions, which are not always easy to manage.

In order to meet these demands **SCM**, a long time manufacturer of machines for the production of door and window frames, has designed the **accord** range of flexible machining centres that includes simple machines right up to the **accord wd** automatic cell.

Today some of the most popular **accord** machining centres, have been augmented with even more surprising advantages. SCM's new IoT solution, **Maestro connect**, designed to change the woodworking future, has ensured that the machining centres are in line with the new Industry 4.0 requirements.

### **ACCORD 42 FX: THE NEW FAST, PRECISE AND SMART MACHINING CENTRE**

**Increases production volumes and speed**

**Increases positioning precision**

**Even smarter thanks to SCM's new IoT solution: "Maestro connect"**

The latest model of the range, the new and exclusive **accord 42 fx** machining centre, is ideally suited for joiners and manufacturers of doors and stairs. The **new machining unit, with two independent routing units**, reduces cycle times considerably: whilst one unit is machining, the other performs the tool change-over, to eliminate down times.

At Xylexpo 2018 the accord 42 fx will be presented **in its new "4.0" version**. SCM's new exclusive IoT solution, **Maestro connect**, adds further fundamental advantages to this machining centre to increase its competitiveness in today's markets:

- **increased productivity and reduction of machine down times** thanks to the possibility of controlling in *real-time* the machine status, the parameters that affect the machining quality (e.g., the level of wear of the components and the state of the machine's various machining units) and of planning the production;
- **precise control of the operating costs** with the complete traceability of any machine down times;
- **greater diagnostic precision** of any problems and **reduction of the maintenance costs**.

The other advantages of accord 42 fx are:

- **greater productivity** thanks to the **new 21 kW electrospindle**, which allows for higher machining speeds;
- tools always available, thanks to the **three magazines** with a **total capacity for 76 tools**;
- **maximum positioning speed and precision in machining window components**, that require multiple blockages during the work cycle. On the MATIC table the workpiece hold-down clamps are driven by independent and direct drive motors.

## **ACCORD 50 FXM: THE VERSATILE SOLUTION IDEAL FOR LARGE VOLUMES AND MORE COMPLEX SHAPES**

**Increases the volume that can be machined**

**Increases its possible uses**

**accord 50 fxm is a machining centre** that can perform **routings and drillings on workpieces with a height up to 500 mm**. In recent years the development of machining centres has mainly focused on 5-axes technology, something that SCM has been a leading exponent of: from the first applications over twenty years old to today's large scale use.

**Today there are multiple applications for 5-axes machining centres:** from classic panels to multi-ply curved panels, from classic solid wood components to design solutions, including applications with other materials, such as plastic, composites and resins. The sectors involved include prototyping and the production of models and moulds.

In order to meet the requirements of the new 5 axes applications, we have had to increase the maximum machining dimensions and allow the tool to rotate freely around workpieces with complex shapes. This led to the creation of the **accord 50 fxm with 5 axes and mobile gantry**.

From Xylexpo 2018 this machining centre will also be **"IoT ready"** with **Maestro connect**.

### **Perfect machining quality**

The machining dimensions are over 6 cubic metres, with all the tools available on the machining unit, whilst maintaining its unequalled precision and finish. The machining unit, fitted with an electrospindle that produces **17 kW from 12,000 to 24,000 RPM**, guarantees maximum performance levels, supported by a stiff structure featuring powerful motors that drive the rotating axes.

### **Unlimited capacity**

The tool magazines located on the machining unit, on the mobile gantry and on the side of the worktable, provide **up to 72 tools**, thus decreasing machine down times due to magazine reconfigurations.

### **Reliable technology**

**The worktable, consisting of modular aluminium components, maintains its perfect long-term planarity**, independently of environmental factors such as temperature and humidity. The direct, integrated vacuum system, with special T-shaped channels, ensures an **optimal hold-down of the workpieces** and the positioning of any type of mechanical hold-down equipment. The machine is also available with mobile bar tables, which contain manual or automatic devices (suction cups and pneumatic clamps), for simple and fast set-ups.

### **Ergonomics and safety**

The ergonomic use of the machine is married to its high productivity, creating the perfect combination. The exclusive **"Pro-Speed" safety system**, detects the presence of the operator

and allows maximum access freedom when loading and unloading the workpieces, without compromising the high transfer speeds.

### **Intelligent programming**

**In its new “4.0” version, thanks to the Maestro connect, accord 50 fxm** features further fundamental advantages that increase its competitiveness in today's markets:

- **increased productivity and reduction of machine down times** thanks to the possibility of controlling in *real-time* the machine status, the parameters that affect the machining quality (e.g., the level of wear of the components and the state of the machine's various machining units) and of planning the production;
- **precise control of the operating costs** with the complete traceability of any machine down times;
- **greater diagnostic precision** of any problems and **reduction of the maintenance costs**.

Moreover, thanks to the **Maestro CNC software**, developed by SCM, **programming the accord 50 fxm is easy, intuitive and effective**.

The **Maestro 3D** module allows the programming and execution of 5-axes machining operations of three-dimensional surfaces.

The **Maestro pro view** simulator can also be used to preview, on the office PC, the actual machining operations to be performed on the machine, with considerable advantages for the customer, such as: elimination of errors and collisions and calculation of production times and costs.

## **ACCORD WD**

### **The maximum productivity of an integrated cell for door and window frames and doors, with the maximum flexibility of a machining centre**

The complete automation of the work cycle has been the main objective of many manufacturers of door and window frames and doors in recent years. This has been rendered necessary in order to remain competitive in an extremely demanding market, which requires quality products at prices that are difficult to achieve with traditional machinery.

Automatic flow solutions are usually designed for the specific products being produced and have the typical high production capacity of cells as their main objective, compromising the flexibility of a machining centre.

**accord wd revolutionises this trend. The flexibility is the same as a stand-alone machine;** pressing a button interrupts the use of the automatic loading/unloading system and the operator can use the machining centre in “manual mode”, to machine non-standard workpieces with maximum access to the worktable. The cell is in fact fitted with the **“Pro-Speed” safety system, that allows access to the worktable, with manual loading and unloading, for the maximum freedom of movement.**

**The machining autonomy is at the top of its class;** the work cycle is never interrupted, thanks to the pendulum machining option. Whilst the machine is working on one half-table, the finished workpieces are unloaded from the other one and the new ones are loaded. **Up to 16 window components can be machined without the continuous presence of the operator.**

Obviously accord wd offers indispensable performance levels for the production of doors and window frames: high power electrospindles, guaranteed high machining speed and excellent finish quality. **The magazines ensure the constant availability of up to 72 tools in total.**

**On show at Xylexpo 2018, accord wd has the following further advantages:**

- **Hold-down clamps**  
Greater usage flexibility: the increased workpiece hold-down range zeroes set-up times of the worktable when changing the thickness of the window being produced.
- **Maestro msl connector software, developed by SCM**  
The programming is made simple by the msl connector software. It uses the information received from the management software and, based on the size of the workpieces and the operations being performed, it manages the machining strategy, optimising the position of the hold-down systems and the tool paths.

## **SUPERSET NT – C. 32**

### **SCM moulding machine enabling endless applications, presented at Xylexpo with the new MOBILE PC electronic control unit**

The range of SCM **superset nt moulders** has been updated to make solid wood machining even easier and smarter.

**The main asset of this range is its great versatility**, which makes it possible to create an extremely wide selection of products: profiles for windows, doors, stairs and furniture.

#### **USER-FRIENDLINESS**

The electronic control **MOBILE PC**, which comes with **MAESTRO 4-SIDE** software, and with a 21,5" touch screen monitor, has many **new features**: simplified program searching, thanks to profile image importing; detailed reporting on the use of the machine; clear and intuitive icons; customised machine layouts, etc.

**MOBILE PC** allows for full **integration of all the machine management functions** - including management of the electronic axes, of the drive system and of each spindle motor.

The operator is assisted in all the machine setting phases thanks to **the MDI feature** - which also allows for manual axes control.

#### **FAST, ACCURATE ADJUSTMENT**

The **"SET-UP" system** allows the operator to change tools and perform adjustments by minimising the likelihood of errors and **making set-up time up to twenty times faster**.

#### **PROFILE VARIABILITY**

**HSK technology** makes a wide range of tools for the creation of different profiles available to the user, ensuring highly flexible production of even increasingly smaller batches. Tool replacement is fast and accurate and occurs in the best ergonomic conditions for the operator. **Down-times are dramatically reduced and outstanding finished product quality is ensured.**

#### **CUSTOMISED COMPOSITION**

**superset nt offers eight different possible set-ups**, thanks to **two right-hand vertical spindles**, and two upper horizontal spindles, with and without universal spindle.

## **BALESTRINI: THE LINE OF HIGH-PRECISION AND FLEXIBLE CNC MACHINING CENTRES AND TENONERS-MORTISERS**

The range of solid wood technologies on display at Xylexpo 2018 includes the balestrini line, designed to meet the increasingly demanding and varied needs of the wood industry.

### **BALESTRINI POWER: maximum versatility in compact dimensions**

**balestrini power** is the range of highly flexible 5-axes machining centres with fixed gantry structure.

This CNC machining centre is ideally suited for manufacturing doors, tables, chairs, beds, stairs and garden furniture, but it can also be configured with different specific solutions (worktables and workpiece hold-down equipment) to obtain **maximum productivity**.

The compact dimensions do not limit the machine's power whilst ensuring it is easy to use.

One of its main strengths is the mobile and modular **worktable**, fitted with crossbars, that ensure easy set-up and great flexibility. Furthermore the **two worktables version** allows for pendular machining.

The crossbars are fitted with two types of workpiece hold-down equipment: COMBI, with suction table and an aluminium table with pressers, positioned at right angles to each other, and four JIG FREE columns with presser cylinder, driven along X, Y and Z, which are ideal for holding-down workpieces with different curvatures.

### **BALESTRINI PICO MD3: the CNC tenoner-mortiser for cupboard doors, frames, door and window joints**

The **balestrini pico md3** is a CNC machine that brings together tenoning and mortising functions. Its mechanical equipment and its software render it particularly suited to machining frames for door and window frames with 45° joints, whilst preventing splintering on solid wood profiles or tears on coated MDF.

**As well as machining head workpieces pico md3 can also end trim and drill:** in particular, its ability to perform a series of mortises and holes on the long side of workpieces, can be used to **install hinges and handles** along the uprights of door and window frames.

pico md3 is able to produce up to 200 tenons and 200 mortises in one hour and one frame every 72 seconds. Thanks to the reduced setup times and programs that can be recalled in just a few seconds, it is ideal for producing small batches.

Finally the extraordinary flexibility of md3 makes it ideal, for other types of machining operations, as well as door and window frames, such as **table frames, mirrors, kitchen cupboard doors and drawer fronts**, just to mention a few.

### **BALESTRINI PICO OM: the small multi-purpose machine for special joints**

The **balestrini pico om CNC tenoner, end-trimmer, drilling machine and mortiser** is the most compact machine on the market that, in the dimensions of a small two-table tenoner, packs a

veritable machining centre able to machine the head of workpieces (tenons, end-trimming, multiple drilling) as well as the sides (multiple mortising, routing and drilling).

#### **FOUR FUNCTIONS IN ONLY 3 MQ**

- **Quick set-up**  
Switches from tenoner to mortiser in less than 10 minutes and workpiece hold-down with adjustable clamps.
- **High machining quality**  
The CNC features a function for the correction of the tool diameter, to guarantee a tolerance of less than 0.05 mm in tenons, holes and mortises.
- **No tool change-over required**  
The tenoning tool also performs the end-trimming operations; the drilling tool can also perform holes and mortises of any size.